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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,519	01/16/2001	Jeffrey C. Strait	99,784-A	5663

20306 7590 06/16/2004

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EXAMINER

BURD, KEVIN MICHAEL

ART UNIT PAPER NUMBER

2631

DATE MAILED: 06/16/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/761,519

Applicant(s)

STRAIT, JEFFREY C.

Examiner

Kevin M Burd

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-12 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 2, 3, 6, 7 and 9-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Van Acker et al (US 6,744,821)

Regarding claims 1, 6, 7 and 12, Van Acker discloses a method of reducing errors in a signal received by a discrete multitone receiver as shown in figure 2. The receiver comprises a frequency domain equalizer (FEQ). The receiver receives a signal that includes errors. The noise is estimated and the taps of the filter are adapted to eliminate the errors received in the signal. And equalizer signal is output and this output signal will have an increased signal to noise ratio (SNR). Van Acker states in column 2, line 62 to column 3, line 4, the signal to noise ratio for transmission of multi-carrier symbols over a channel between a multi-carrier transmitter and a multi-carrier receiver of the present invention is maximized via a mean square error criterion which allows to determine the complex tap values of the per-carrier frequency domain equalizer in which an error function expressing the mean squared difference between received and

expected carrier QAM symbols is minimized. The taps of the equalizer are changed depending on the noise present in the received signal (column 3, lines 7-28).

Regarding claim 2, the noise components will be uncanceled noise components until the equalizer taps are changed.

Regarding claim 3, as stated above, a mean squared error algorithm is used to remove the noise components.

Regarding claim 9, numerous filter taps are used in the delay lines (abstract).

Regarding claims 10 and 11, all received noise components are stored until the appropriate tap update can take place (column 3, lines 7-28).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Acker et al (US 6,744,821) in view of Simeon et al (US 6,252,902).

Regarding claim 8, Van Acker discloses the system described above in paragraph 1. Van Acker does not disclose the system utilizes an ADSL. Simeon discloses using ADSL transceivers for transmitting discrete multitone symbols is well known in the art (figure 1). Simeon states "xDSL modems represent the next generation of high speed digital communications for the small office/home office environment"

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(column 1, lines 41-53). It would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the teaching of Simeon into the system of Van Acker to use the high speed digital capabilities of the xDSL modems.

Allowable Subject Matter

3. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry or for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Burd, whose telephone number is (703) 308-7034. The Examiner can normally be reached on Monday-Thursday from 9:00 AM - 6:00 PM.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.

A handwritten signature in cursive script, reading "Kevin M. Burd", is written over a horizontal line.

Kevin M. Burd
PATENT EXAMINER
6/12/2004